MARKET RESEARCH ANALYSIS
FOR
TRAFFIC SIGNAL
MAINTENANCE AND REPAIR

(NOTE TO THE WRITER: THIS MARKET RESEARCH ANALYSIS IS BASED ON A SURVEY OF COMMERCIAL SECTOR BUSINESS PRACTICES. IT COMPARES THE GOVERNMENT REQUIREMENT FOR SERVICES TO THE COMMERCIAL MARKET TO DETERMINE HOW THESE SERVICES ARE CONTRACTED. **THIS IS A GENERIC DOCUMENT THAT MUST BE TAILORED TO THE UNIQUE REQUIREMENTS AT EACH INSTALLATION.** THE PURPOSE OF THIS DOCUMENT IS TO DEMONSTRATE TO THE CONTRACTING OFFICE THAT THIS SERVICE CAN BE OBTAINED IN THE COMMERCIAL MARKET AND TO SET FORTH THE STANDARD FOR THE SERVICE IF A STANDARD EXISTS. THIS DOCUMENT INDICATES THAT THE SERVICE IS COMMERCIALLY AVAILABLE AND WILL ALLOW CONTRACTING TO USE FAR PART 12 FOR COMMERCIAL ACQUISITIONS.)

Insert Your AFB
And Date

MARKET RESEARCH
FOR
TRAFFIC SIGNAL MAINTENANCE AND REPAIR

1. OBJECTIVE. The objective of this market research is to determine if maintenance and repair services for traffic signals are customarily available in the commercial market and to determine the most suitable method for acquiring such services. If services that will meet the stated government requirement are not available commercially, a determination will be made whether the available commercial services can be modified to meet the requirement, or whether the requirement can be modified to meet the commercial standard. The results of this research will be used to determine commercial practices for the method of contracting, types of contracts, performance standards, and inspection methods.

2. REQUIREMENT. The contractor shall repair and maintain all traffic signal devices and systems to assure reliable operation. Preventive maintenance activities shall be performed on a regular schedule, and repair services provided as needed. All maintenance shall be performed in accordance with (IAW) manufacturer's specifications, handbooks, and instructions and shall conform to requirements of the Manual for Uniform Traffic Control Devices and applicable state and local codes.

3. PARTICIPANTS. HQ AFCESA/CEOC, 139 Barnes Drive, Suite 1, Tyndall AFB, FL 32403-5319.

4. SOURCES OF INFORMATION. Sources of information include city, county, and state transportation agencies, commercial traffic signal maintenance providers, and government transportation publications. See list of sources at Attachment 1.

5. FINDINGS AND ANALYSIS.

5.1. GENERAL. The Manual for Uniform Traffic Control Devices, incorporated by reference in 23 CFR part 655, subpart F and approved by the Federal Highway Administrator, states that all traffic control devices must be installed by a public authority or other official jurisdiction. State and local highway agencies are responsible to select, install, operate, and maintain traffic control devices within their jurisdictions. The local governing body (city, county, municipality, etc.) may choose to employ and train traffic signal maintenance workers through its Public Works department or may contract with a commercial maintenance firm to provide the services. In this market research effort, we contacted or otherwise obtained information from seven city public works agencies in the states of Florida, Texas, Arizona, Oregon, and Colorado. In addition, we contacted two county public works agencies, the state transportation agency in Georgia, three private signal maintenance providers, and the National Transportation Library.

Of the seven cities from which we obtained information, five employ traffic signal technicians as part of their Public Works maintenance organization. The level of maintenance varies among the locations and is determined by budget constraints. For example, Panama City, Florida, (population 35,986) employs 3 IMSA-certified technicians who maintain traffic signals at 67 intersections. Of the 67 intersections, 45 belong to the state of Florida, with whom the city has a long-standing maintenance agreement. Because of limited funds and personnel, the city has no set schedule for preventive signal maintenance and no program for periodic signal

relamping. A visual inspection is included in each service call for repairs at an intersection. The state Department of Transportation periodically inspects signals at intersections along state routes. The number of traffic signal technicians working in Panama City appears typical of cities of the same size and larger, averaging one technician for every 22 traffic signals. Other cities employing their own technicians are Corpus Christi, Texas (pop. 280,260); Salem, Oregon (pop. 122,566), Scottsdale, Arizona (pop. 179,012), and Portland, Oregon (pop. 497,600).

Some small cities, such as Lynn Haven, Florida, depend entirely on county and state maintenance for their traffic signals. The same is true of most small communities in Georgia, where the state Department of Transportation maintains all signals on the state route system, with few exceptions. The major intersections of small communities are likely to be located on state or county roads. Many counties have their own road maintenance shops, which include traffic signal maintenance. The Bay County, Florida, Department of Public Works maintains 71 traffic signals in the county. These include all signals not located within Panama City. The county employs 2 field technicians, certified by IMSA. These technicians maintain state roads under an agreement with the state Department of Transportation, which installs new equipment and conducts inspections, but does not provide maintenance services. Another example is Clark County, Washington, where traffic signal technicians report to the county Highway Maintenance Supervisor.

This research effort revealed that many cities, counties, and other governmental jurisdictions throughout the nation contract with private maintenance providers for traffic signal repair and maintenance. Signal Maintenance, Inc., a subsidiary of Thermal Power, provides signal maintenance to 140 cities in California, most in Orange, Santa Clara, and San Diego counties. The firm provides both preventive maintenance and "extraordinary maintenance", tailoring its contracts to the requirements of the community. The community governing bodies release Requests for Proposals, which consider contractor qualifications as well as proposed price, or Requests for Bids, by which the lowest bidder is employed to perform the services. The typical contract held by Signal Maintenance, Inc., is for a 4-year period of performance with annual renegotiations allowed.

Ingram Electric Co., a small, female-owned business in Pensacola, Florida, has contracts to perform traffic signal maintenance for Escambia and Santa Rosa counties in Northwest Florida. Their contracts are prepared by the county and are for a 3-year period of performance, with annual options to renew at the same price or renegotiate for an increase. Ingram Electric employs 14 people to maintain signals at 220 intersections of varying size and flashing beacons in school zones. Mr. Wilson stated that he knows of only a few other signal maintenance contractors in Florida, mainly in the south peninsula, and none in Alabama.

Rocky Mountain Signal, Inc. has been awarded one-year contracts for 1997 and 1998 to provide traffic signal maintenance to the city of Westminster, Colorado. The firm maintains signals at 61 intersections and 8 pedestrian crossings. The City Manager's recommendation for contract award to the City Council states that the City does not have the equipment and labor force required to perform traffic signal maintenance.

5.2. STANDARDS. The Federal Highway Administration (FHWA) is responsible for developing standards for the design, application, and proper placement of traffic control devices. The FHWA is also responsible for publishing the *Manual on Uniform Traffic Control Devices*

(MUTCD), which contains the national standards and guidance for traffic control devices used on all roads open to the public. The MUTCD is incorporated by reference in 23 CFR part 655, subpart F, approved by the Federal Highway Administrator, and recognized as the national standard for traffic control on all public roads. Other standards used in traffic signal maintenance include the National Electrical Manufacturers Association (NEMA) Standards for Transportation Management Systems
TS 1-1989 (R 1994) Traffic Control Systems and TS 2-1992 Traffic Controller Assemblies. Each state may have its own Department of Transportation standards, usually based on the MUTCD. An example is CalTrans Spec 86-3, which governs traffic signal maintenance in California. Traffic signal technicians may be required to earn certification by the International Municipal Signal Association (IMSA), which offers certification at Levels I, II, and III. The typical requirement is Level II certification.

5.3. SPECIFICATIONS/DESCRIPTION OF WORK. Two general categories of work activities are included in traffic signal maintenance: annual preventive (routine) maintenance, and additional (occasional) maintenance.

5.3.1. Preventive Maintenance. The Traffic Planning Manual of the series titled *Transportation Planning for Your Community* (Highway Users Federation for Safety and Mobility, Washington D.C.) describes preventive maintenance as follows: Every traffic signal should be checked and serviced, if necessary, at least once every three months by a competent signal repairman. In addition to the routine preventive maintenance procedures prescribed by the equipment manufacturer, checks should be made to determine if the timing controls and related operational features are functioning correctly. The components of annual preventive maintenance included in the Rocky Mountain Signal, Inc. contract with the city of Westminster, Colorado, are stated as follows:

- Clean signal controller cabinets and components.
- Check all field wiring for inadequacies (i.e., proper grounding, etc.)
- Check critical controller settings (i.e., amber time) with a stop watch to ensure adequate operation.
- Check for adequate power levels in the communications cable that links the signals in the computerized signal system.
- Check and calibrate vehicle loop detectors to ensure proper operation. (Vehicle loop detectors are wires embedded in the roadway. They detect the presence of a vehicle, which triggers a change in the traffic signal.)
- Check signal heads, signal poles, and associated hardware for damage and make repairs as necessary.
- Check and record incoming voltage at all intersections to prevent excessive wear on the signal control equipment.
- Inspect quarterly at each signal location.
- "Troubleshoot" and maintain the computerized signal system components to ensure proper operation.
- Maintain emergency vehicle preemption equipment to ensure proper operation. (Emergency vehicle preemption equipment consists of an electric component that preempts the traffic signal to allow a green signal indicator for fire equipment.)
- Based on the activities listed above, provide the contracting authority with a prioritized list of items in need of repair.

5.3.2. Additional Maintenance. Additional traffic signal maintenance items (sometimes termed "extraordinary maintenance" or "emergency maintenance") include the following tasks:

- Emergency trouble calls (physical damage, safety risks at intersections, etc.)
- Unscheduled maintenance (lamp burnouts, controller malfunctions, etc.)
- Annual light bulb replacement program
- Loop detector replacement (replace loops destroyed by sewer construction, street paving, expansion or utility networks, etc.)
- On-call availability of the contractor 7 days a week, 24 hours a day

5.3.3. Traffic Control Device Maintenance Record. Records covering traffic control device maintenance are considered essential to the efficient operation of a city street system. Records usually take the form of multiple entry job work orders. Accurate and complete work orders can be an important item in a city's defense against suits alleging that traffic control devices were inadequate, missing, or improperly installed or maintained.

5.3.4. Quality Control. A formal Quality Control Program was not a contract requirement in the commercial sector; however, most contractors performing the service had their own internal quality control program.

5.4. METHOD OF CONTRACTING. The City Manager of Westminster, Colorado, released an annual Request for Bids in October, 1997, for a traffic signal maintenance contract to begin on January 1, 1998. The bids and recommendation were submitted for approval to the City Council. Three contractors submitted bids. Upon the recommendation of the city manager, the City Council determined that Rocky Mountain Signal, Inc., the incumbent and lowest bidder, was highly qualified to perform the requirements of the contract. In similar fashion, the county governments of Escambia and Santa Rosa counties in Florida prepared a three-year contract for which they released a Request for Proposal and chose Ingram Electric Company to provide signal maintenance. Contracts obtained by Signal Maintenance, Inc. of Anaheim, California, were prepared in this same manner by the local governmental authorities.

5.5. PRICING FACTORS. The Rocky Mountain Signal, Inc., in its bid for the 1998 Traffic Signal Maintenance Contract with the city of Westminster, Colorado, utilized a conservative, estimated annual amount of labor and equipment hours for performance of all traffic signal maintenance items, either preventive or additional. The estimated hours of labor and equipment for preventive maintenance do not cover material costs associated with any repairs made as the result of the annual preventive maintenance inspection. Additional traffic signal maintenance is priced on the basis of a conservative estimate of labor and equipment costs. This estimate does not include material costs, with the exception of light bulbs. Material costs for both types of maintenance are paid by the city from its remaining traffic signal maintenance account. Rocky Mountain Signal bid $72,060 for the 1998 contract with Westminster.

Signal Maintenance, Inc. bases its pricing on the number of intersections it will service per month, plus the price for annual relamping of all signals. Any non-routine maintenance (i.e., emergency repair, accident repair) is priced per intersection by the hour for labor and vehicles plus materials.

Ingram Electric Co. bases its contract prices on the size of the intersection and the required signal (2-, 4-, or 8-phase) and charges a monthly fee per intersection. Other factors are the cost of materials, cost of labor, and increases in the cost of living.

5.6. METHOD OF SURVEILLANCE. Among the cities and counties with a traffic signal maintenance shop, work is performed under the general supervision of a maintenance foreman or Traffic Engineer. Field inspections by the state Department of Transportation are used to ascertain that maintenance activities and repairs are being performed in accordance with all MUTCD and other standards. In cities and counties where maintenance work is contracted out, inspections are carried out by city or county inspectors.

5.7. REMEDIES FOR NONCONFORMING SERVICES. Traffic signal shops run by the county or city are allowed to re-perform maintenance activities that do not meet the MUTCD or other standards. Non-standard maintenance activity that originates with a particular worker is handled as a personnel issue. Activities that do not meet the standards must be re-performed. Concerning contracts with private sector maintenance companies, both Signal Maintenance, Inc. and Ingram Electric Co. indicated that city or county inspectors can close down a work site if specifications are not being met. In addition, the contractor may face financial penalties for unacceptable services or delays in meeting scheduled work. Each contract contains a 30-day cancellation clause, which may be exercised by the governing authority only. Continued problems with contractor performance may result in non-renewal of yearly contract increments.

6. CONCLUSIONS. The market research indicates that traffic signal maintenance is commercially available throughout the U.S. but is more prevalent in urban areas. Each city, town, or municipality must weigh the cost of contracting the services versus sustaining their own technicians at local labor rates. If contracted, the requirement should be a FAR Part 12 acquisition.

ATTACHMENT 1
POINTS OF CONTACT DURING MARKET RESEARCH FOR TRAFFIC SIGNAL MAINTENANCE AND REPAIR

City of Westminster, CO
Bids for 1998 Traffic Signal Maintenance
POC: Greg Olson, Transportation Systems Coordinator
www.ci.westminster.co.us

Rocky Mountain Signal, Inc.
3200 W. 71st Ave, #18
Westminster, CO 80030-5470
(303) 657-0605

National Transportation Library
"Transportation Planning for Your Community – Traffic Planning"
www.bts.gov/NTL/DOCS/PYC.html

Signal Maintenance, Inc.
2283 Via Burton Street
Anaheim, CA 92806
www.peek-traffic.com

Georgia Department of Transportation
District 6
www.dot.state.ga.us/homeoffs/d6/sigmaint

Clark County, Washington
Home Page
www.co.clark.wa.us/HR/CLASS/Q_t/TRFSIG

Corpus Christi, Texas
City Home Page
www.corpus.net/street/info.htm

Salem, Oregon
Traffic Signal Shop Home Page
www.open.org/spubwork/maint/signal.htm

Portland, Oregon
City Home Page
www.trans.ci.portland.or.us/Maintenance

Scottsdale, Arizona
City Home Page
www.ci.scottsdale.az.us/cosweb/services

Federal Register: December 5, 1997
(Volume 62, Number 234)
www.wais.access.gpo.gov

Bay County, Florida
Department of Public Works
(850) 784-4018

City of Panama City, Florida
Public Works Department
POC: Pete Mallott
(850) 872-3005

City of Lynn Haven, Florida
Public Works Department
(850) 265-5989

Ingram Electric Co.
Pensacola, FL
(850) 433-8266
POC: Donny Wilson

Atch 1

STATEMENT OF WORK
FOR
TRAFFIC SIGNAL
MAINTENANCE AND REPAIR

(NOTE TO THE WRITER: THIS STATEMENT OF WORK IS BASED ON COMMERCIAL MARKET PRACTICES AS DETERMINED BY THE MARKET RESEARCH CONDUCTED ON THIS REQUIREMENT. IT REFLECTS HOW THE COMMERCIAL SECTOR DOES BUSINESS. **YOU MUST TAILOR THE DOCUMENT FOR YOUR BASE BY INCLUDING YOUR UNIQUE REQUIREMENTS AND QUANTITIES FOR WORKLOAD ESTIMATES.** THE SURVEILLANCE METHODS REFLECTED IN THIS DOCUMENT MIRROR THE PRACTICES FOUND IN THE MARKET RESEARCH. IF YOU REQUIRE SPECIFIC SURVEILLANCE TECHNIQUES YOU SHOULD ADD THEM TO THE APPROPRIATE SECTION.)

Insert Your AFB
And Date

STATEMENT OF WORK
FOR
TRAFFIC SIGNAL MAINTENANCE AND REPAIR

(LIMIT THE ACQUISITION REFORM BARRIER OF RESTRICTIVE DEPARTMENT OF DEFENSE (DOD) DIRECTIVES OR AIR FORCE (AF) INSTRUCTIONS. INCLUDE ONLY DOD OR AF DOCUMENTS THAT ARE REQUIRED FOR ENVIRONMENTAL, SAFETY, OR SECURITY REASONS. WHEN THE GOVERNMENT UNIQUE INSTRUCTIONS OF A DOD OR AF DOCUMENT ARE DETERMINED ABSOLUTELY NECESSARY TO BE INCLUDED IN THE REQUIREMENT, REFERENCE ONLY THE SPECIFIC PARAGRAPHS OF THE DOCUMENT THAT PERTAIN.)

1. DESCRIPTION OF SERVICES. The Contractor shall provide all management, tools, supplies, equipment, and labor necessary to maintain and repair all traffic signals at (INSERT INSTALLATION NAME) in a manner that will ensure continuous and reliable operation. The contract period shall be (SPECIFY PERIOD OF PERFORMANCE). Maintenance and repair services shall be in accordance with the *Manual on Uniform Traffic control Devices (MUTCD),* state and local transportation codes, commercial practices, and manufacturer's specifications.

1.1. MAINTENANCE SERVICES. The contractor shall perform (INSERT FREQUENCY) inspections of all traffic signals.

1.1.1. The contractor shall perform preventive maintenance on each traffic signal identified in Exhibit A to ensure reliable and continuous operation. The maintenance work shall be in accordance with the *Manual on Uniform Traffic Control Devices (MUTCD),* state and local transportation codes, commercial practices or manufacturer's specifications, if available, and shall be intended to maintain the traffic signals in reliable operating condition until the next scheduled maintenance. Preventive maintenance shall include but not be limited to:

- Check and replace light bulbs quarterly or as needed.
- Clean signal controller cabinets and components.
- Check and repair all field wiring for inadequacies (i.e., proper grounding, etc.)
- Check and adjust critical controller settings (i.e., amber time) with a stopwatch to ensure adequate operation.
- Check for adequate power levels in the communications cable that links the signals in the computerized signal system.
- Check and calibrate vehicle loop detectors to ensure proper operation.
- Check signal heads, signal poles, and associated hardware for damage and make repairs as necessary.
- Check and record incoming voltage at all intersections to prevent excessive wear on the signal control equipment.
- "Troubleshoot" and maintain the computerized signal system components to ensure proper operation.
- Maintain emergency vehicle preemption equipment to ensure proper operation. (Emergency vehicle preemption equipment consists of an electric component that preempts the traffic signal to allow a green signal indicator for fire equipment.)

1.1.2. The contractor shall prepare and submit a written report within two-business days of the (INSERT FREQUENCY) inspection. The report shall identify each traffic signal, the location, maintenance work performed, repairs needed, date of inspection, name of inspector, and overall condition of the signal.

1.2. SERVICE CALLS. A traffic light that malfunctions is considered a service call. Any malfunctioning traffic light repair is considered urgent. The contracting officer or his designated representative will direct the contractor to make repairs if necessary. The contractor shall provide base contracting an estimated time and cost for the repair. The contractor will repair the light immediately after notification. All repair work shall be in accordance with normal commercial practices using parts specified by the traffic signal manufacturer. The contractor shall prepare and submit a written report within two business days after routine repairs are completed. The report shall include the date and time of the service call, the location of the traffic signal, the repairs performed, and the name of the technician performing the repairs. The basic contract price includes all labor, material and other costs to cover six (6) (BASE MAY INSERT DIFFERENT NUMBER) service calls.

2. SERVICE DELIVERY SUMMARY.

Performance Objective	SOW Para	Performance Threshold
Repair and Maintain Traffic Signals. Ensure reliable and continuous operation IAW the *Manual on Uniform Traffic Control Devices (MUTCD),* state and local transportation codes, commercial practices or manufacturer's specifications.	1.1. - 1.2.	Customer complaints shall not exceed 2 per month.

3. GOVERNMENT FURNISHED PROPERTY AND SERVICES. (LIST GOVERNMENT FURNISHED PROPERTY/SERVICES/EQUIPMENT, ETC. OR INCLUDE IN APPENDIX.)

4. GENERAL INFORMATION.

4.1. QUALITY CONTROL. (OPTIONAL) The contractor shall develop and submit for government approval a written quality control program to ensure maintenance and repairs are performed IAW the MUTCD and other applicable standards and codes. Included in the plan shall be procedures to identify, prevent, and ensure non-recurrence of defective services.

4.2. QUALITY ASSURANCE. The government will periodically evaluate the contractor's performance in accordance with the Quality Assurance Surveillance Plan.

4.3. GOVERNMENT REMEDIES. The contracting officer shall follow FAR 52.212.4, Contract Terms and Conditions – Commercial Items (May 1997), for contractor's failure to perform satisfactory services or failure to correct non-conforming services.

4.4. HOURS OF OPERATION. (INSERT APPROPRIATE HOURS.)

4.5. SECURITY REQUIREMENTS. (INCLUDE INSTALLATION AND CONTRACT OR REQUIREMENT-SPECIFIC SECURITY REQUIREMENTS OF THE CONTRACTOR AND EMPLOYEES HERE. THIS SHALL INCLUDE BASE PASS REQUIREMENTS, SECURITY CLEARANCE REQUIREMENTS, ETC. DO NOT DUPLICATE SECURITY CLAUSES OR SPECIAL PROVISIONS REQUIRED IN THE SOLICITATION AND CONTRACT BY THE FEDERAL ACQUISITION REGULATION (FAR) AND ITS SUPPLEMENTS. THE UNIT SECURITY MONITOR SHOULD INITIATE A DD FORM 254, DOD CONTRACT SECURITY CLASSIFICATION SPECIFICATION. REQUIREMENTS NOT COVERED IN THE DD FORM 254 OR THE SOLICITATION SHOULD BE INCLUDED HERE.)

4.6. PERFORMANCE OF SERVICES DURING CRISIS DECLARED BY THE NATIONAL COMMAND AUTHORITY OR OVERSEAS COMBATANT COMMANDER. (IDENTIFY SERVICES DETERMINED TO BE ESSENTIAL FOR PERFORMANCE DURING CRISIS ACCORDING TO DODI 3020.37. SPECIFY HOURS OF OPERATION REQUIRED AND THE PROCEDURES TO NOTIFY THE CONTRACTOR.)

4.7. SPECIAL QUALIFICATIONS. (NOTE: LIST HERE ANY SPECIAL QUALIFICATIONS FOR CONTRACT EMPLOYEES, IF NECESSARY.)

4.8. PARTNERING AGREEMENT. (OPTIONAL) The contracting office may require a partnering agreement between contracting and the contractor to ensure joint cooperation and a sound partnership of all parties involved in the execution of this contract. Representatives from each organization are encouraged to participate in developing the partnering agreement. Suggested representation is the Civil Engineer manager, the Government Inspector, the Government Contract Administrator, the contractor's manager, and the contractor's quality control person. All costs for the partnering agreement will be shared equally between the government and the contractor. This group is responsible for developing a formal partnering agreement that will be signed by all parties involved. The agreement shall contain, as a minimum: specific goals and a list of all objectives to reach the goals, a set of metrics to evaluate the objectives, a frequency for meetings to review the metrics, and a statement of cooperation to execute the terms of the agreements. (NOTE: INSTALLATIONS MAY WANT TO REQUIRE AN INDEPENDENT MEDIATOR.)

5. APPENDICES.

A. Estimated Workload Data

B. Maps and/or Site Plans

C. Government Furnished Property/Services/Equipment

(NOTE: ADD OTHER APPENDICES AS NEEDED.)

APPENDIX A

ESTIMATED WORKLOAD DATA

TRAFFIC SIGNAL MAINTENANCE AND REPAIR

ITEM	NAME	ESTIMATED QUANTITY	
1	Type of Signal (2-, 4-, or 8-Phase) (LIST THE TRAFFIC SIGNALS TO BE SERVICED.)	_____	Each
2	Type of Signal (2-, 4-, or 8-Phase)	_____	Each
3	Type of Signal (2-, 4-, or 8-Phase)	_____	Each
4	Type of Signal (2-, 4-, or 8-Phase)	_____	Each
5	Type of Signal (2-, 4-, or 8-Phase)	_____	Each

Traffic Light Service Calls (3 year -by month)												
YR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
98												
97												
96												

(NOTE: ADD OTHER WORKLOAD DATA AS APPROPRIATE.)

APPENDIX B

MAPS AND/OR SITE PLANS

SUGGESTED MAPS ARE:

LOCATION OF ALL TRAFFIC LIGHTS-USE NUMERIC SYMBOLS FOR EACH TYPE/STYLE OF TRAFFIC LIGHT

AUTHORIZED GATE ENTRY POINTS

BASE MAP OF ALL PERTINENT OFFICES & EMERGENCY SERVICES

(ADD MAPS/PLANS AS NEEDED TO SHOW LOCATIONS OF TRAFFIC SIGNALS.)

APPENDIX C

GOVERNMENT FURNISHED PROPERTY/SERVICES/EQUIPMENT

(LIST ITEMS AS APPLICABLE.)

QUALITY ASSURANCE SURVEILLANCE PLAN
FOR
TRAFFIC SIGNAL
MAINTENANCE AND REPAIR

Insert Your AFB
And Date

QUALITY ASSURANCE SURVEILLANCE PLAN
FOR
TRAFFIC SIGNAL MAINTENANCE AND REPAIR

INTRODUCTION

This Quality Assurance Surveillance Plan (QASP) has been developed to evaluate contractor actions while implementing this SOW. It is designed to provide an effective surveillance method of monitoring contractor performance for each listed objective on the Service Delivery Summary (SDS) in the maintenance contract.

The QASP provides a systematic method to evaluate the services the contractor is required to furnish.

This QASP is based on the premise the government desires to maintain a quality standard in operating, maintaining, and repairing facilities and that a service contract to provide the service is the best means of achieving that objective.

The contractor, and not the government, is responsible for management and quality control actions to meet the terms of the contract. The role of the government is quality assurance to ensure contract standards are achieved.

In this contract the quality control program is the driver for product quality. The contractor is required to develop a comprehensive program of inspections and monitoring actions. The first major step to ensuring a "self-correcting" contract is to ensure that the quality control program approved at the beginning of the contract provides the measures needed to lead the contractor to success.

Once the quality control program is approved, careful application of the process and standards presented in the remainder of this document will ensure a robust quality assurance program.

QUALITY ASSURANCE SURVEILLANCE PLAN
FOR
TRAFFIC SIGNAL MAINTENANCE AND REPAIR

Performance Objective	SOW Para	Performance Threshold
Repair and Maintain Traffic Signals. Ensure reliable and continuous operation IAW the *Manual on Uniform Traffic Control Devices (MUTCD),* state and local transportation codes, commercial practices or manufacturer's specifications.	1.1. - 1.2.	Customer complaints shall not exceed 2 per month.

SURVEILLANCE: The government quality assurance (QA) person will receive complaints from base personnel and pass them to the contractor's quality control inspector (QCI) for correction.

STANDARD: Two (2) customer complaints are permitted each month. If more than 2 customer complaints are received the QA shall notify the contracting officer for appropriate action in accordance with FAR 52.212.4, Contract Terms and Conditions-Commercial Items (May 1997) or the appropriate Inspection of Services clause.

PROCEDURES: Any base employee that observes unacceptable services, either incomplete or not performed, for any of the above performance objectives should immediately contact the QA and the QA will complete appropriate documentation to record the complaint. The QA will consider the customer complaint valid upon receipt from the customer. The QA should inform the customer of the approximate time the unacceptable performance will be corrected and advise the customer to contact the QA if not corrected. The QA will consider customer complaints as resolved unless notified otherwise by the customer. The QA shall verbally notify the Contractor's Quality Control Inspector (QCI) to pick up the written customer complaint. The QCI will be given two hours after verbal notification to correct the unacceptable performance. If the QCI disagrees with the complaint after investigation of the site and challenges the validity of the complaint, the QCI will notify the QA. The QA will conduct an investigation to determine the validity of the complaint. If the QA determines the complaint as invalid, he will document the written complaint of the findings and notify the customer. The QA will retain the annotated copy of the written complaint for his/her files. If after investigation the QA determines the complaint as valid, the QA will inform the QCI and the QCI will be given an additional hour to correct the defect. A defect will not be recorded if proper and timely correction of the unacceptable condition(s) is accomplished. The QCI shall return the written customer complaint document, properly completed with actions taken, to the QA, who will file the complaint for monitoring future recurring performance.

GOVERNMENT COST ESTIMATE
FOR
TRAFFIC SIGNAL MAINTENANCE SERVICES

NOTES: DETERMINING A GOVERNMENT COST ESTIMATE FOR A SERVICE CONTRACT IS NOT A SIMPLE PROCESS. SINCE LABOR IS THE MAIN FACTOR OF COST IN A SERVICE CONTRACT; THE COSTS FOR THE SKILLS PERFORMING THE SERVICE WILL BE DRIVEN BY THE LOCAL LABOR RATES. THE DIFFICULTY LIES IN DEFINING THE SKILLS REQUIRED, AND THE SIZE OF THE CREW THAT WILL PERFORM THE SERVICE, AND THEN DETERMINING THE LOCAL LABOR RATE FOR THE PARTICULAR SKILL. MARKET RESEARCH INDICATES THAT MOST USERS OF THE SERVICE WOULD APPROXIMATE COSTS FROM SERVICE PROVIDERS. TO ASSIST YOU IN DETERMINING THE GOVERNMENT COST ESTIMATE FOR THIS SERVICE CONTRACT, WORKLOAD DRIVERS, HAVE BEEN DEFINED (SEE BELOW). YOU CAN ENTER THE QUANTITIES FROM YOUR BASE AND PROVIDE THIS INFORMATION TO SEVERAL SUGGESTED SOURCES IN YOUR LOCAL AREA. IN MOST CASES, THEY WILL PROVIDE YOU AN ESTIMATE FOR PERFORMING THE SERVICE. YOU CAN COMPARE THE ESTIMATES AND THEN SUBMIT YOUR ESTIMATE (GOVERNMENT ESTIMATE) BASED ON WHAT YOU FOUND IN THE LOCAL MARKET.

ESTIMATED WORKLOAD DATA

ITEM	NAME	ESTIMATED QUANTITY	
1	Type of Signal (2-, 4-, or 8-Phase) (LIST THE TRAFFIC SIGNALS TO BE SERVICED.)	_____	Each
2	Type of Signal (2-, 4-, or 8-Phase)	_____	Each
3	Type of Signal (2-, 4-, or 8-Phase)	_____	Each
4	Type of Signal (2-, 4-, or 8-Phase)	_____	Each
5	Type of Signal (2-, 4-, or 8-Phase)	_____	Each

Traffic Light Service Calls (3 year -by month)												
YR	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
98												
97												
96												

SUGGESTED
BID SCHEDULE

CONTRACT LINE ITEM NO. (CLIN)	SUPPLIES/SERVICE	QTY	UNIT	UNIT PRICE	AMOUNT
	NONPERSONAL SERVICES: Provide all supervision, personnel, equipment, transportation, material, and other items and services necessary to inspect, service, maintain, and repair Traffic Signals at (INSERT NAME OF INSTALLATION) for the period (INSERT PERFORMANCE PERIOD) in accordance with the Statement of Work in Section C.				
0001	Repair and maintain traffic signals	12	MO	_____	_____
	TOTAL CLIN 0001				

(THE BASE SHOULD DUPLICATE THE BID SCHEDULE FOR EACH OPTION YEAR. IT IS RECOMMENDED THAT A BASIC PLUS FOUR OPTION YEARS CONTRACT BE USED.)